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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/763,058 | 01/22/2004 | Hiroshi Uno | 1990.69202 | 3718 |
| 24978 7590 07/25/2008 GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606 | | | | |
| EXAMINER KAPADIA, VARSHA A | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2627 | | | | |
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| 07/25/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,058

Applicant(s)

UNO ET AL.

Examiner

VARSHA A. KAPADIA

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

This office action is responsive to the amendment filed on 3/7/08.

Rejection Under 35 U.S.C. 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 3 and 5, the convolution of $(k-s \cdot D)$ with what other function is not defined. Therefore claims 1, 3 and 5 are vague and indefinite. The dependent claims 2, 4 and 6 do not further clarify the respective independent claims. Therefore, the dependent claims 2, 4 and 6 are also rejected for the same reasons. Appropriate correction is respectfully required.

Allowable Subject Matter

The indicated allowability of claims 1-6 is withdrawn in view of the newly discovered reference(s) to Triceps Kikakubu Edition; "PRML Shori Shingou Gijutsu"; Kabushiki Kaisha Triceps; Sept 2, 1996; pages 94-114) (the available English translation of the foreign copy of this document submitted by the applicant on 1/22/04 is being referred to and from here on this document is being referred to as Triceps, the English Translation is attached with this office action).

Rejections based on the newly cited reference(s) follow.

Rejection Under 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Triceps.

With regards to claim 1, Triceps disclose a signal processing method utilizing a partial response to record information on a medium (see fig.20 elements a, b and c disclosure thereof and page 29 last paragraph to the first paragraph on page 31) and then regenerate the information from the medium wherein a regeneration signal from the medium is subjected to an equalizing process including the convolution (see fig.20 elements d and e, disclosure thereof, last paragraph on page 29, table 2 on page 29 and the last paragraph on page 10 to last paragraph on page 11) of (k-s.D)

where D: one (1) bit delay operator, and k, s: positive integer. (see 8th line “(1+D) (2-D)” in table 2 on page 29 in Triceps ; wherein in 2-D, k is considered as 2 and s is considered as 1).

With regards to claims 3 and 5, the limitations recited in the method claim 1 are similar to the limitations recited in the apparatus claims 3 and 5. Therefore, the rejection applied to the method claim 1 is also applied the apparatus claims 3 and 5 for the same reasons of anticipation as stated above in this office action.

Rejection Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Triceps (as described above in this office action) in view of Ueno (US 5,995,545).

With regards to claim 2, Triceps disclosed the signal processing method as described above in this office action. Triceps fails to further disclose that the information is decoded from the equalized signal by use of maximum-likelihood detection.

Ueno, however disclose that the information is decoded from the equalized signal by use of maximum-likelihood detection as recited in the claim (See fig.8 elements 70-72 and disclosure thereof).

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify the signal processing capability disclosed by Triceps with the above teaching from Ueno to provide the information that is decoded from the equalized signal by use of maximum-likelihood detection, such that the most likely sequence of the signal is detected and hence to minimize the effect of waveform interference.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VARSHA A. KAPADIA whose telephone number is (571)272-7557. The examiner can normally be reached on Mon Tue and Thurs. from 6:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571 272 4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Varsha A Kapadia/
Examiner, Art Unit 2627